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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,794	12/22/2004	Hidemitsu Takaoka	09852/020258-US0	3060
7278	7590	09/09/2005	EXAMINER TURNER, ARCHENE A	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			ART UNIT 1775	PAPER NUMBER

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,794

Applicant(s)

TAKAOKA ET AL.

Examiner

Archene Turner

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-3,12-14 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The claimed proportions of Al content in claim 4 is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

3. Claims 2,4,12-14 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The Al varying as in claim 3 is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5-7,9-11,12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrases "tungsten carbide based cemented carbide", "titanium carbonitride based cermet" and "cubic boron nitride based sintered material" in the claims

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render them indefinite. This rejection can be overcome by deleting the word "based" from these phrases.

6. Claims 2-4,12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear which layer includes the ZR and Ce or Y component, rendering the claims indefinite.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1,5-7,8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai ((6,309,738) or Kobe Steel (JP 11-61380) or Sumitomo Electric (JP 07-097679) in view of Hitachi Tool (JP 09-323205).

Sakurai or Kobe Steel or Sumitomo Electric disclose the claimed TiAlN alternating layers having the claimed thickness and Al content and the method of making the layers. They do not specifically disclose the addition of Zr, Ce or Y into the layers.

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Hitachi Tool discloses the known addition of these components to TiAl compound films, within the claimed content.

Thus it would have been obvious to one of ordinary skill in the art to add the claimed Zr, Ce or Y into the layers of Sakurai or Kobe Steel or Sumitomo Electric, as this addition is known in the coating art to improve the performance of TiAl compound films, as shown by Hitachi Tools.

9. Claims 2-4, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi Materials (JP 11-310867) in view of Hitachi Tool (JP 09-323205).

Sakurai or Kobe Steel or Sumitomo Electric disclose the claimed TiAlN and TiAlCN layers having the claimed thickness and Al content and the method of making the layers. They do not specifically disclose the addition of Zr, Ce or Y into the layers.

Hitachi Tool discloses the known addition of these components to TiAl compound films, within the claimed content.

Thus it would have been obvious to one of ordinary skill in the art to add the claimed Zr, Ce or Y into the layers of Mitsubishi Materials, as this addition is known in the coating art to improve the performance of TiAl compound films, as shown by Hitachi Tools.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Archene Turner whose new telephone number is (571)

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272-1545. The examiner can normally be reached on Monday through Wednesday, and Friday from 10:30 am. to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Please remember to include on the fax, the art unit 1775, serial number and Examiner's name.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'A. A. Turner', with a long horizontal flourish extending to the right.

A. A. Turner
Primary Examiner
Group 1700

aat